

Message

From: Dan Pope [DPope@css-inc.com]
Sent: 5/23/2017 6:49:55 PM
To: d'Almeida, Carolyn K. [dAlmeida.Carolyn@epa.gov]; Cosler, Doug [Doug.Cosler@TechLawInc.com]; Davis, Eva [Davis.Eva@epa.gov]; Bo Stewart [Bo@praxis-enviro.com]; Henning, Loren [Henning.Loren@epa.gov]; Brasaemle, Karla [Karla.Brasaemle@TechLawInc.com]; Wayne Miller [Miller.Wayne@azdeq.gov]; Jennings, Eleanor [Eleanor.Jennings@parsons.com]; Steve Willis [steve@uxopro.com]
Subject: RE: ST12 response

WAFB Conference Call (5-23-2017) Notes

Large masses of LNAPL, with benzene and other COCs, remain at the Site. EPA/AZDEQ estimates of LNAPL/COC mass are somewhat larger than AF/AMEC estimates.

AF/AMEC estimates of EBR efficacy and timeframes for stripping LNAPL of COCs and bringing GW to COC levels less than Site goals are based on their modeling efforts, which are:

1. poorly documented (and therefore it is difficult to thoroughly analyze the appropriateness of the AF/AMEC modeling effort),
2. based on problematic assumptions about Site conditions,
3. based on optimistic assumptions mass flux of COCs from LNAPL into GW, and
4. based on optimistic assumptions about biodegradation rates of COCs in GW

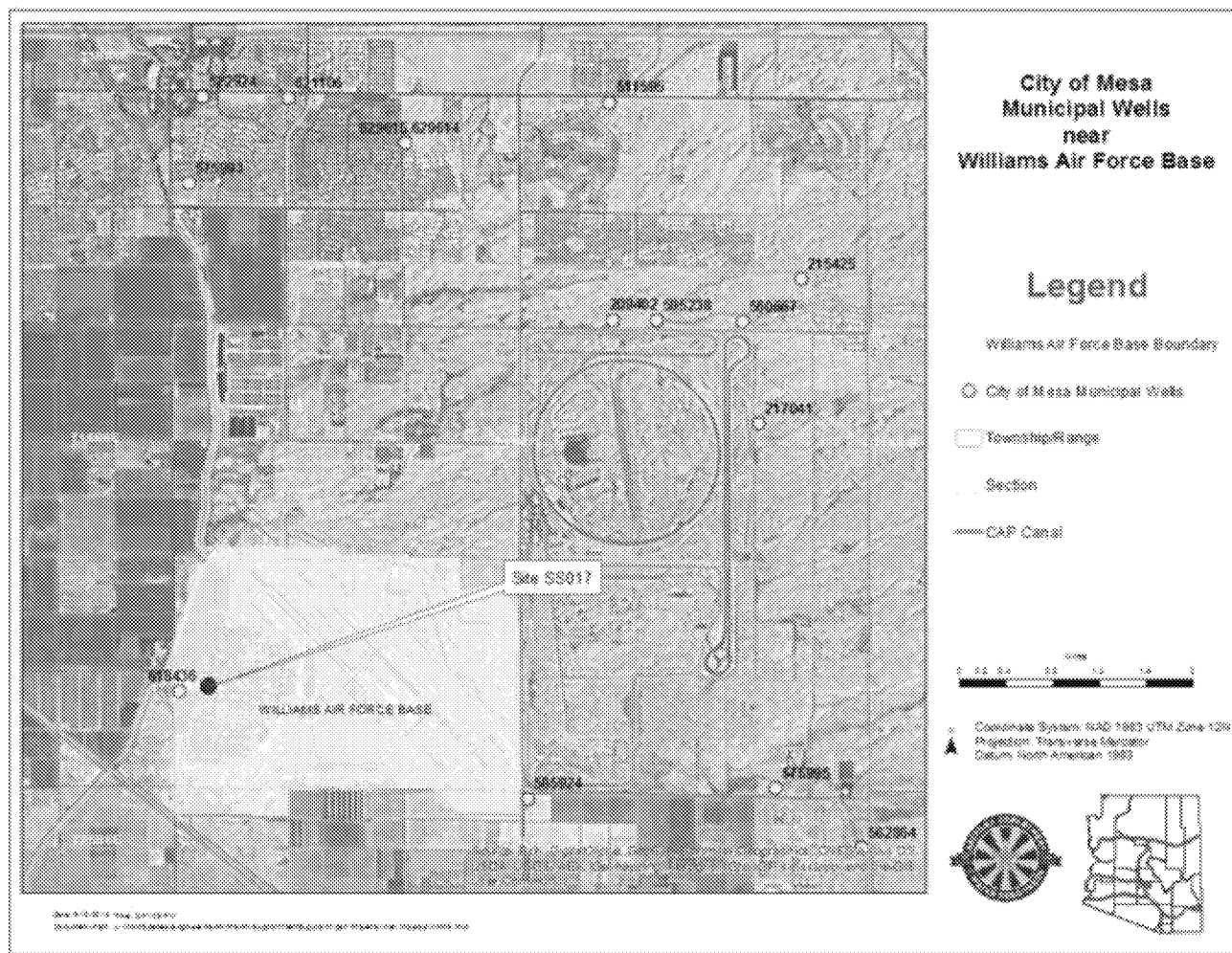
Because the AF/AMEC modeling of EBR/MNA is simplistic, poorly documented, and optimistic in assumptions, AZDEQ has developed detailed and site-specific (i.e., using site-measured parameters, rather than assumptions and literature values) modeling and analysis efforts for mass flux of COCs from LNAPL into GW, and enhanced biodegradation of COCs in GW. AZDEQ modeling and analysis indicates that the TOR is likely to be much longer than estimated by AF/AMEC.

Also, there are water supply wells within 4 miles (or even closer) of the Site. Impact on these wells from Site COCs is potentially highly adverse. Currently there are no data (i.e., GW COC concentrations along the way to the public water supply wells, and in the wells), and no modeling to show how COCs might move to the wells, and the timeframe involved.

If AF/AMEC moves ahead with full-scale implementation of EBR, within a year or two of implementation LNAPL (not just GW!) at the Site should show evidence of strong depletion of COCs (20% or more). And so on....

From: d'Almeida, Carolyn K. [mailto:dAlmeida.Carolyn@epa.gov]
Sent: Tuesday, May 23, 2017 1:45 PM
To: Cosler, Doug; Dan Pope; Davis, Eva; Bo Stewart; Henning, Loren; Brasaemle, Karla; Wayne Miller; Jennings, Eleanor; Steve Willis
Subject: RE: ST12 response

There are actually more wells even closer than the City's municipal wells



Carolyn d'Almeida
Remedial Project Manager
Federal Facilities Branch (SFD 8-1)
US EPA Region 9
(415) 972-3150

"Because a waste is a terrible thing to mind..."

From: d'Almeida, Carolyn K.
Sent: Thursday, May 18, 2017 3:06 PM
To: 'Cosler, Doug' <Doug.Cosler@TechLawInc.com>; 'Dan Pope' <DPope@css-inc.com>; Davis, Eva <Davis.Eva@epa.gov>; Bo Stewart <Bo@praxis-enviro.com>; Henning, Loren <Henning.Loren@epa.gov>; Brasaemle, Karla <Karla.Brasaemle@TechLawInc.com>; Wayne Miller <Miller.Wayne@azdeq.gov>; Jennings, Eleanor <Eleanor.Jennings@parsons.com>; Steve Willis <steve@uxopro.com>
Subject: RE: ST12 response

Thanks everyone for your efforts with this. I just got off of the phone from briefing Enrique. He is very interested in your model conclusions, but has a follow up question that will require additional modeling effort. He wants to know given the slow degradation rate predicted by the model, can we also link a transport model to show growth of groundwater plume over the predicted timeframe?

Carolyn d'Almeida
Remedial Project Manager

Federal Facilities Branch (SFD 8-1)
US EPA Region 9
(415) 972-3150

"Because a waste is a terrible thing to mind..."

From: Cosler, Doug [<mailto:Doug.Cosler@TechLawInc.com>]

Sent: Thursday, May 18, 2017 12:16 PM

To: 'Dan Pope' <DPope@css-inc.com>; Davis, Eva <Davis.Eva@epa.gov>; Bo Stewart <Bo@praxis-enviro.com>; d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; Brasaemle, Karla <Karla.Brasaemle@TechLawInc.com>; Wayne Miller <Miller.Wayne@azdeq.gov>; Jennings, Eleanor <Eleanor.Jennings@parsons.com>; Steve Willis <steve@uxopro.com>

Subject: RE: ST12 response

I added my edits to Eva's version (attached). I believe I addressed a few of her comments and a couple of Dan's. I regret that I wasn't able to add my comments to Bo's original version before sending out yesterday; hence, all of the red-line. (Bo also needs to make sure he is OK with the changes I made).

Maybe we need to an updated "clean" version for Dan to make some of his edits and for Eleanor to look at?

Doug

From: Dan Pope [<mailto:DPope@css-inc.com>]

Sent: Thursday, May 18, 2017 11:31 AM

To: Cosler, Doug <Doug.Cosler@TechLawInc.com>; 'Davis, Eva' <Davis.Eva@epa.gov>; Bo Stewart <Bo@praxis-enviro.com>; d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; Brasaemle, Karla <Karla.Brasaemle@TechLawInc.com>; Wayne Miller <Miller.Wayne@azdeq.gov>; Jennings, Eleanor <Eleanor.Jennings@parsons.com>; Steve Willis <steve@uxopro.com>

Subject: RE: ST12 response

A couple of comments, most of which are not actionable, added to Eva's comments.

From: Cosler, Doug [<mailto:Doug.Cosler@TechLawInc.com>]

Sent: Thursday, May 18, 2017 8:56 AM

To: 'Davis, Eva'; Bo Stewart; d'Almeida, Carolyn K.; Henning, Loren; Dan Pope; Brasaemle, Karla; Wayne Miller; Jennings, Eleanor; Steve Willis

Subject: RE: ST12 response

I'm looking at this summary again this morning and will try to address as many of Eva's comments as I can.

Doug

From: Davis, Eva [<mailto:Davis.Eva@epa.gov>]

Sent: Wednesday, May 17, 2017 5:02 PM

To: Bo Stewart <Bo@praxis-enviro.com>; d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; 'Dan Pope' <DPope@css-inc.com>; Brasaemle, Karla <Karla.Brasaemle@TechLawInc.com>; Cosler, Doug <Doug.Cosler@TechLawInc.com>; Wayne Miller <Miller.Wayne@azdeq.gov>; Jennings, Eleanor <Eleanor.Jennings@parsons.com>; Steve Willis <steve@uxopro.com>

Subject: RE: ST12 response

A few comments inserted in the document -

From: Bo Stewart [<mailto:Bo@praxis-enviro.com>]

Sent: Wednesday, May 17, 2017 2:48 PM

To: d'Almeida, Carolyn K. <dAlmeida.Carolyn@epa.gov>; Henning, Loren <Henning.Loren@epa.gov>; Davis, Eva <Davis.Eva@epa.gov>; 'Dan Pope' <DPope@css-inc.com>; Brasaemle, Karla <KBrasaemle@TechLawInc.com>; Cosler, Doug <Doug.Cosler@TechLawInc.com>; Wayne Miller <Miller.Wayne@azdeq.gov>; Jennings, Eleanor <Eleanor.Jennings@parsons.com>; Steve Willis <steve@uxopro.com>

Subject: Re: ST12 response

Hi All,

Attached is the summary that Doug and I came up with. I also added an outline and made some edits to make the memo a little more readable. That is also attached. Please comment on/edit the summary to make it more understandable. We added some interpretative language that does not appear in the memo to get the point across although held back adding that these time estimates are still optimistic as they assume the degradation goes flawlessly.

Bo

On 5/11/2017 3:48 PM, d'Almeida, Carolyn K. wrote:

d'Almeida, Carolyn K. has invited you to ST12 response

Title:	ST12 response
Location:	Dial-In Number(s): (866) 299-3188 Conference Code: 4159722020
When:	Tuesday, May 16, 2017 10:30 AM – 12:00 PM
Organizer:	d'Almeida, Carolyn K. < dAlmeida.Carolyn@epa.gov >
Description:	Dial-In Number(s): (866) 299-3188 Conference Code: 4159722020
Comment:	
Attendees:	Henning, Loren <Henning.Loren@epa.gov> Davis, Eva <Davis.Eva@epa.gov> 'Dan Pope' <DPope@css-inc.com> Brasaemle, Karla <KBrasaemle@TechLawInc.com> Cosler, Doug <Doug.Cosler@TechLawInc.com> Wayne Miller <Miller.Wayne@azdeq.gov> Jennings, Eleanor <Eleanor.Jennings@parsons.com> Bo Stewart <Bo@praxis-enviro.com> R9SF-ConferenceLine-SFD-Card2 <R9SF-ConferenceLine-SFD-Card2@epa.gov>

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Lloyd "Bo" Stewart, PhD, PE
Praxis Environmental Tech., Inc.